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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

NOGUEROLA, ALEXANDER STEPHAN

ART UNIT	PAPER NUMBER
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1753

DATE MAILED: 02/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/988,495

Examiner

ALEX NOGUEROLA

Applicant(s)

KERMANI, MAHYAR Z.

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,9-11,17-20 and 23-29 is/are rejected.
- 7) ☒ Claim(s) 2,5-8,12-16,21 and 22 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other:

Claim Objections

1. Claims 9, 10, and 18 are objected to because of the following informalities:
 - a) Claim 9, line 6: "a" should be -- said --;
 - b) Claim 9, line 11: -- the -- should be inserted between "of" and "oscillating";
 - c) Claim 10, line 2: "oscillation" should be -- oscillator --; and
 - d) Claim 18, line 1: -- the at least one -- should be inserted before "characteristic".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. Claims 6, 13, 14, 17-20 and 23-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention:

- a) Claims 6 and 17: what is being "compensated"?
- b) Claim 13: what is to be "compensated" by the compensating means?
- c) Claim 17, line 5 " ," should be -- . -- (a period);
- d) Claim 20: it is not clear how the limitation of claim 20 further limits claim 15.
Claim 20 only appears to restate lines 9-10 of Claim 15;
- e) Claim 23 recites the limitation "biosensor" in line 4. There is insufficient antecedent basis for this limitation in the claim;

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- f) Claim 23: it is not clear whether the electrochemical cell is part of the biosensor;
- g) Claim 24 requires the step of "providing the system of claim 10" and claim 23, from which claim 24 depends, requires the step of "providing the system of claim 9". Does Applicant actually intend for two systems as provided in claim 9 to be provided in the invention of claim 24?, and
- h) Claim 25 is the electrochemical cell in the electrochemical test strip?

Note that dependent claims will have the deficiencies of base and intervening claims.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Double Patenting Rejection Against Application 10/020,169

4. Claim 1 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/020,169. Although the conflicting claims are not identical, they are not patentably distinct from each other because the combination of the phase shifter, square wave generator, synchronous demodulator, and low pass filter in claim 1 of copending Application No. 10/020,169 will function as the oscillation circuit of claim 1 of the instant application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

5. Claim 3 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 5 of copending Application No. 10/020,169. Claim 1, from which claim 3 depends, has been addressed above. Although the conflicting claims are not identical, they are not patentably distinct from each other because Claim 5 requires a processor, which one with ordinary skill in that art would assume is a microprocessor. In any event, one with ordinary skill in the art would use a microprocessor to control and analyze the various electrical signals; a microprocessor would be faster and more accurate than generating, monitoring, and analyzing the electrical signals manually with a generator, assuming it could be done so.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

6. Claim 4 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 6 of copending Application No. 10/020,169. Claim 3, from which claim 4 depends, has been addressed above. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 6 requires “deriving the volume of the sample based on the effective capacitance across the biosensor cell”.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

7. Claim 9 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 2 of copending Application No. 10/020,169. Although the conflicting claims are not identical, they are not patentably distinct from each other because the combination of the phase shifter, square wave generator, synchronous demodulator, and low pass filter in claim 1 of copending Application No. 10/020,169 will function as the oscillation circuit of claim 9 of the instant application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

8. Claim 10 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 5 of copending Application

No. 10/020,169. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 5 requires a processor, which one with ordinary skill in the art at the time of the invention would understand to be a microprocessor.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

9. Claim 11 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 6 of copending Application

No. 10/020,169. Claim 10, from which claim 11 depends, has been addressed above. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 6 requires means for deriving the volume of the sample. Volume is a function of area. So, the means for deriving the sample volume must also derive the surface area of the cell covered by the sample.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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10. Claim 25 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/020,169 in view of Douglas et al. (US 6,544,475 B1), hereafter "Douglas". Claim 1, from which claim 25 depends, has been addressed above. It should be first noted that the "apparatus" in claim 1 could be construed as a "kit". In any event, Douglas teaches providing in a kit an electronic circuit for use with a biosensor (abstract; Figures 6 and 7; and col. 8, ll. 33-56). It would have been obvious to one with ordinary skill in the art at the time the invention was made to include the electronic circuit of claim 1 in a kit as taught by Douglas because as taught by Douglas "[t]he assembly of a system kit comprised of a testing instrument [which would include an electronic circuit] and a specific number of synchronized test strips for the testing of a specific analyte can provide a simple, cost effective test method and procedure" (col. 7, ll. 64-67). As seen from Figures 6 and 7 of Douglas, test strips and calibration means are conveniently located together in the kit.

This is a provisional obviousness-type double patenting rejection.

11. Claim 26 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/020,169 in view of Douglas et al. (US 6,544,475 B1), hereafter "Douglas". Claim 25, from which claim 26 depends, has been addressed above. It should be first noted that the electronic circuit is part of an apparatus that also contains the biosensor. In any event, Douglas teaches making the electronic measuring circuit integral with an automated biosensor (col. 8,

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11. 17-56). It would have been obvious to one with ordinary skill in the art at the time the invention was made to make the electronic circuit integral with the automated biosensor as taught by Douglas in the invention of claim 1 because this will make the biosensor and kit more compact.

12. Claim 27 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/020,169 in view of Douglas et al. (US 6,544,475 B1), hereafter "Douglas". Claim 26, from which claim 27 depends, has been addressed above. Claim 1 of copending Application No. 10/020,169 as modified by Douglas does not mention providing instructions for using the electronic circuit and the automated device. Instructions for using medical devices sold to the public are commonly provided with the devices and may be required by law. It would have been obvious to one with ordinary skill in the art at the time the invention was made to provide instructions for using the electronic circuit and the automated device because if the kit is intended for use by patients and individuals who do not have experience with or working knowledge of the kit these persons would not be able to use the kit properly without the instructions

13. Claim 28 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 2 of copending Application

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No. 10/020,169 in view of Douglas et al. (US 6,544,475 B1), hereafter "Douglas". Claim 9, from which claim 28 depends, has been addressed above. Claim 2 of copending Application No. 10/020,169 as modified by Douglas does not mention providing instructions for using the electronic circuit and the automated device. Instructions for using medical devices sold to the public are commonly provided with the devices and may be required by law. It would have been obvious to one with ordinary skill in the art at the time the invention was made to provide instructions for using the electronic circuit and the automated device because if the kit is intended for use by patients and individuals who do not have experience with or working knowledge of the kit these persons would not be able to use the kit properly without the instructions

14. Claim 29 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 2 of copending Application No. 10/020,169 in view of Douglas et al. (US 6,544,475 B1), hereafter "Douglas". Claim 28, from which claim 29 depends, has been addressed above. None of the claims in copending Application No. 10/020,169 mention including an automated device integral with the system configured to operatively receive and engage the electrochemical cell. Douglas teaches providing including an automated device integral with the system configured to operatively receive and engage the electrochemical cell (note testing instrument 21 and test strips 11).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to provide have the automated device integral with the system configured to operatively receive and engage the electrochemical cell as taught by Douglas in the invention of claim 2 of copending Application No. 10/020,169 as modified by Douglas because then contamination of the automated device will be avoided since the sample will only be in the test strip containing the electrochemical cell, which is disposable, and different tests can be performed by different test strips adapted for measuring different analytes.

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

16. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Garnham et al. (WO 97/39343 A1), hereafter “Garnham”.

Addressing claim 1, Garnham teaches an electronic circuit configured to be electronically connectable to an electrochemical cell (implied by the abstract, which teaches that a variety of AC frequencies may be applied to the cell to make measurements) for receiving a biological sample (implied by page 1, last paragraph bridging to page 2, which teaches various biological agents that may be used in the cell, such as enzymes or antigens, to detect the sample component

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of interest) and having a capacitance created by the biological sample when a voltage is applied to the electrochemical cell (claim 1), the circuit comprising

an oscillation circuit configured to receive a voltage input signal resulting from the charging and discharging of the electrochemical cell and configured to convert the voltage input signal to an oscillating voltage output signal proportional to the capacitance of the cell (implied by page 5, first full paragraph, which teaches applying AC voltage to the cell and collecting resulting capacitance data. Also see claim 1, which teaches measuring the capacitance of the electrodes after an AC voltage has been applied).

Addressing claim 3, having a microprocessor operatively and electronically coupled to the oscillation circuit is taught (page 5, first full paragraph).

17. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Newman (WO 87/03095 A1), hereafter "Newman".

Addressing claim 1, Newman teaches an electronic circuit configured to be electronically connectable to an electrochemical cell (abstract and Figures 10 and 11) for receiving a biological sample (abstract) and having a capacitance created by the biological sample when a voltage is applied to the electrochemical cell (claim 11), the circuit comprising

an oscillation circuit configured to receive a voltage input signal resulting from the charging and discharging of the electrochemical cell and configured to convert the voltage input signal to an oscillating voltage output signal proportional to the capacitance of the cell

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(Figures 10 and 11 and page 23, line 16 – page 24, line 22).

Addressing claim 3, having a microprocessor operatively and electronically coupled to the oscillation circuit is taught (Figure 11).

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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20. Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garnham et al. (WO 97/39343 A1), hereafter “Garnham” in view of Douglas et al. (US 6,544,475 B1), hereafter “Douglas”.

Addressing claim 25, Garnham teaches an electronic circuit configured to be electronically connectable to an electrochemical cell (implied by the abstract, which teaches that a variety of AC frequencies may be applied to the cell to make measurements) for receiving a biological sample (implied by page 1, last paragraph bridging to page 2, which teaches various biological agents that may be used in the cell, such as enzymes or antigens, to detect the sample component of interest) and having a capacitance created by the biological sample when a voltage is applied to the electrochemical cell (claim 1), the circuit comprising

an oscillation circuit configured to receive a voltage input signal resulting from the charging and discharging of the electrochemical cell and configured to convert the voltage input signal to an oscillating voltage output signal proportional to the capacitance of the cell (implied by page 5, first full paragraph, which teaches applying AC voltage to the cell and collecting resulting capacitance data. Also see claim 1, which teaches measuring the capacitance of the electrodes after an AC voltage has been applied).

Garnham does not mention providing the electronic circuit in a kit. Douglas teaches providing in a kit an electronic circuit for use with a biosensor (abstract; Figures 6 and 7; and col. 8, ll. 33-56). It would have been obvious to one with ordinary skill in the art at the time the invention was made include the electronic circuit of Garnham in a kit as taught by Douglas because as taught by Douglas “[t]he assembly of a system kit comprised of a testing instrument [which would include an electronic circuit] and a specific number of synchronized test strips for

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the testing of a specific analyte can provide a simple, cost effective test method and procedure” (col. 7, ll. 64-67). As seen from Figures 6 and 7 of Douglas, test strips and calibration means are conveniently located together in the kit.

Addressing claim 26, Douglas teaches making the electronic measuring circuit integral with an automated biosensor (col. 8, ll. 17-56). It would have been obvious to one with ordinary skill in the art at the time the invention was made to make the electronic circuit integral with the automated biosensor as taught by Douglas in the invention of claim Garnham because this will make the biosensor and kit more compact.

Addressing claim 27, Garnham as modified by Douglas does not mention providing instructions for using the electronic circuit and the automated device. Instructions for using medical devices sold to the public are commonly provided with the devices and may be required by law. It would have been obvious to one with ordinary skill in the art at the time the invention was made to provide instructions for using the electronic circuit and the automated device because if the kit is intended for use by patients and individuals who do not have experience with or working knowledge of the kit these persons would not be able to use the kit properly without the instructions

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21. Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Newman (WO 87/03095 A1), hereafter “Newman”, in view of Douglas et al. (US 6,544,475 B1), hereafter “Douglas”.

Addressing claim 25, Newman teaches an electronic circuit configured to be electronically connectable to an electrochemical cell (abstract and Figures 10 and 11) for receiving a biological sample (abstract) and having a capacitance created by the biological sample when a voltage is applied to the electrochemical cell (claim 11), the circuit comprising an oscillation circuit configured to receive a voltage input signal resulting from the charging and discharging of the electrochemical cell and configured to convert the voltage input signal to an oscillating voltage output signal proportional to the capacitance of the cell (Figures 10 and 11 and page 23, line 16 – page 24, line 22).

Newman does not mention providing the electronic circuit in a kit. Douglas teaches providing in a kit an electronic circuit for use with a biosensor (abstract; Figures 6 and 7; and col. 8, ll. 33-56). It would have been obvious to one with ordinary skill in the art at the time the invention was made include the electronic circuit of Newman in a kit as taught by Douglas because as taught by Douglas “[t]he assembly of a system kit comprised of a testing instrument [which would include an electronic circuit] and a specific number of synchronized test strips for the testing of a specific analyte can provide a simple, cost effective test method and procedure” (col. 7, ll. 64-67). As seen from Figures 6 and 7 of Douglas, test strips and calibration means are conveniently located together in the kit.

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Addressing claim 26, Douglas teaches making the electronic measuring circuit integral with an automated biosensor (col. 8, ll. 17-56). It would have been obvious to one with ordinary skill in the art at the time the invention was made to make the electronic circuit integral with the automated biosensor as taught by Douglas in the invention of claim Garnham because this will make the biosensor and kit more compact.

Addressing claim 27, Newman as modified by Douglas does not mention providing instructions for using the electronic circuit and the automated device. Instructions for using medical devices sold to the public are commonly provided with the devices and may be required by law. It would have been obvious to one with ordinary skill in the art at the time the invention was made to provide instructions for using the electronic circuit and the automated device because if the kit is intended for use by patients and individuals who do not have experience with or working knowledge of the kit these persons would not be able to use the kit properly without the instructions

Allowable Subject Matter

22. Claims 2, 5-8, 12-16, and 18-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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23. Claims 6, 13, 14, and 17 would be allowable if rewritten to overcome the rejections under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

24. The following is a statement of reasons for the indication of allowable subject matter:

a) Claim 2 requires the oscillation circuit to be a Schmidt trigger circuit. In Garnham details of the oscillation circuit are not discussed and a schematic of the circuit is not shown. In Newman the schematic of the oscillator circuit shown in Figure 11, which is discussed on page 23, line 27 – page 24, line 22, does not show a Schmidt trigger circuit;

b) Claims 5 and 12 require determining the adequacy of the volume for measurement of one or more analytes within the sample. Neither Garnham nor Newman disclose determining the volume of the sample from measurements made on the sample using the electronic circuit. The claims of copending Application 10/020,169 do not mention determined the adequacy of the derived value of the sample volume.

c) Claim 6 depends from allowable claim 5;

d) Claim 7 requires “a supply voltage in the range of from 1.8 to 5.0 V” and the oscillation circuit to comprise “an operational amplifier having an upper voltage in the range from about 200 to 600 mV and an lower voltage in the range of from about 0 to

500 mV.” As for any voltages involved in using the biosensor, Garnham only mentions that the AC voltage signals applied to the cell were 1 V peak to peak (page 5, first full paragraph). Newman only mentions that a voltage in first region has a higher field intensity than a voltage in a second region (page 10, bottom paragraph bridging to page 11 and page 16, first full paragraph); no specific voltages or voltage ranges are mentioned in Newman. The claims in copending Application no. 10/020,169 do not mention any specific voltages or voltage ranges;

e) Claim 8 depends from allowable claim 7;

f) Claims 13 and 14 depend directly or indirectly from allowable claim 12;

g) Claim 15 requires the step of converting the voltage, which is generated by charging the biosensor with a direct current voltage, to an oscillating voltage having a *period* proportional to the capacitance. Neither Garnham nor Newman disclose applying a direct current voltage to the biosensor; they only apply an AC current voltage. The claims of copending Application no. 10/020,169 mention producing from the oscillator (or providing means for producing) a signal proportional to the capacitance across the biosensor (claims 4 and 22, for example), but do not mention that the period is proportional to the biosensor capacitance. Furthermore, the claims of copending Application no. 10/020,169 that disclose generating a signal proportional to the

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capacitance across the biosensor also require applying (or means for applying) an AC voltage to the biosensor, which is not require by claim 15 of the instant application;

h) Claims 16-22 depend directly or indirectly from allowable claim 15;

i) Claim 23 requires the step of converting the charged voltage, which is generated by charging the biosensor with a direct current voltage, to an oscillating voltage having a *frequency* proportional to the capacitance. Neither Garnham nor Newman disclose applying a direct current voltage to the biosensor; they only apply an AC current voltage.

The claims of copending Application no. 10/020,169 mention producing from the oscillator (or providing means for producing) a signal proportional to the capacitance across the biosensor (claims 4 and 22, for example), but do not mention that the frequency is proportional to the biosensor capacitance. Furthermore, the claims of copending Application no. 10/020,169 that disclose generating a signal proportional to the capacitance across the biosensor also require applying (or means for applying) an AC voltage to the biosensor, which is not require by claim 23 of the instant application; and

h) Claim 24 depends from allowable claim 23.

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25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEX NOGUEROLA whose telephone number is (571) 272-1343. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NAM NGUYEN can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1042.


Alex Noguera

01/20/2004

Primary Examiner

TC 1753